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**PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Group Art
Unit: 1645

Application No.: 10/647,423

Filing Date: August 25, 2003

First Named
Inventor: BAVYKIN, Sergei G.

Title: DISCRIMINATION OF BACILLUS
ANTHRACIS FROM CLOSELY
RELATED MICROORGANISMS BY
ANALYSIS OF 16S AND 23S rRNA
WITH OLIGONUCLEOTIDE
MICROCHIPS

Attorney
Docket No.: 21416/94731

Examiner
Name: not yet assigned

Certificate Under 37 CFR 1.8(a)

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Alexandria, VA 22313-1450

on January 6, 2003

Alice O. Martin
Registration No. 35,601

INFORMATION DISCLOSURE STATEMENT

Commissioner of Patents
Alexandria, VA 22313-1450

Sir:

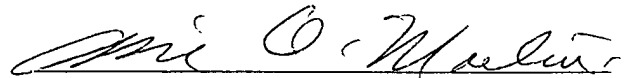
This statement is filed in the application identified above pursuant to 37 C.F.R. § 1.97(b)(3). No representation is intended that a complete search has been made of the prior art or that no better publications than listed on Form PTO/SB/08A are available. A copy of the publications cited are being provided herewith for review by the Examiner. The filing of this Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in § 1.56(b).

U.S. Ser. No.: 10/647,423

Attorney Docket No. 21416/94731

No other fees are believed due at this time, however, please charge any deficiencies or credit any overpayments to deposit account number 12-0913 with reference to our attorney docket number (21416-94731).

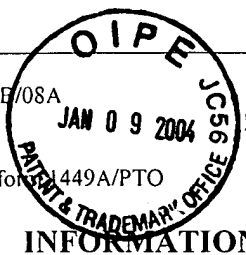
Respectfully submitted,



Alice O. Martin
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Dated: January 6, 2003

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 <p>FORM PTO/SE 708A (REV. 10-96)</p> <p>Substitute for form 449A/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p>(Use several sheets if necessary)</p> <p>Sheet 1 of 4</p>	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Complete if Known	
	Application Number:		10/647,423	
	Filing Date:		August 25, 2003	
	First Named Inventor:		BAVYKIN, Sergei G.	
	Group Art Unit		1645	
	Examiner Name			
Attorney Docket Number:		21416-94731		

A U.S. PATENT DOCUMENTS					
*Examiner Initials	Cite No. 1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A.1				
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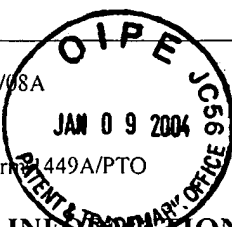
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
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	A.16					
	A.17					
	A.18					
	A.19					

EXAMINER		DATE CONSIDERED	
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¹ Applicant's unique citation designation number (optional). ² See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 4

Complete if Known

Application Number	10/647,423
Filing Date	August 25, 2003
First Named Inventor	BAVYKIN, Sergei G..
Group Art Unit	1645
Examiner Name	not yet assigned
Attorney Docket Number	21416/94731

B

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	B.1	ASH, C., et al. 1992. "Comparative analysis of 23S ribosomal RNA gene sequences of <i>Bacillus anthracis</i> and emetic <i>Bacillus cereus</i> determined by PCR-directsequencing." FEMS Microbiol. Lett. 94:75-80.	
	B.2	ASH, C., et al. 1991. "Comparative analysis of <i>Bacillus anthracis</i> , <i>Bacillus cereus</i> , and related species on the basis of reverse transcriptase sequencing of 16S rRNA." Int. J. Syst. Bacteriol. 41:343-346.	
	B.3	ASH, C., et al. 1991. "Phylogenetic heterogeneity of the genus <i>Bacillus</i> revealed by comparative analysis of small-subunit-ribosomal RNA sequences." Lett. Appl. Microbiol. 3:202-206.	
	B.4	BAVYKIN, S. G. et al. 2001. "Portable system for microbial sample preparation and oligonucleotide microarray analysis." Appl. Environ. Microbiol., 67: 922-928.	
	B.5	BEYER, W., et al. 1996. "A nested PCR and DNA-amplification-fingerprinting method for detection and identification of <i>Bacillus anthracis</i> in soil samples from former tanneries." Salisbury Medical Bulletin, Special Supplement No. 87:47-49.	
	B.6	CHEE, M., et al. 1996. "Accessing genetic information with high-density DNA arrays." Science 274: 610-614.	
	B.7	DAFFONCHIO, D., et al. 2000. "Homoduplex and heteroduplex polymorphisms of the amplified ribosomal 16S-23S internal transcribed spacers describe genetic relationships in the ' <i>Bacillus cereus</i> Group.'" Appl. Environ. Microbiol. 66:5460-5468.	
	B.8	GIFFEL, M.C., et al. 1997. "Discrimination between <i>Bacillus cereus</i> and <i>Bacillus thuringiensis</i> using specific DNA probes based in variable regions of 16S rRNA. FEMS Microbiol." Lett. 146:47-51.	
	B.9	GUSCHIN, D., et al. 1997. "Manual manufacturing of oligonucleotide, DNA, and protein microchips." Anal. Biochem. 250:203-211.	
	B.10	GUSHIN, D. Y., et al. 1997. "Oligonucleotide microchips as genosensors for determinative and environmental studies in microbiology." Appl. Environ. Microbiol. 63:2397-2402.	
	B.11	HARRELL, L. J., et al. 1995. "Genetic variability, of <i>Bacillus anthracis</i> and related species." J. Clin Microbiol. 33:1847-1850.	
	B.12	HELGASON, E., et al. 2000. " <i>Bacillus anthracis</i> , <i>Bacillus cereus</i> , and <i>Bacillus thuringiensis</i> -one species on the basis of genetic evidence." Appl. Environ. Microbiol. 66:2627-2630.	
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(REV. 10-96) Substitution for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Application Number	10/647,423
	Filing Date	August 25, 2003
	First Named Inventor	BAVYKIN, Sergei G..
	Group Art Unit	1645
	Examiner Name	not yet assigned
Sheet 3 of 4	Attorney Docket Number	21416/94731

C OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C.1	HENDERSON, I. 1996. "Fingerprinting <i>Bacillus anthracis</i> strains." Salisbury Medical Bulletin, Special Supplement No. 87:55-58.	
	C.2	HENDERSON, I., et al. 1994. "Differentiation of <i>Bacillus anthracis</i> from other <i>Bacillus cereus</i> group bacteria with the PCR." Int. J. Syst. Bacteriol. 44:99-105.	
	C.3	HENDERSON, I., et al. 1995. "Differentiation of <i>Bacillus anthracis</i> and other <i>Bacillus cereus</i> group bacteria using IS231-derived sequences." FEMS Microbiol. Lett. 128:113-118.	
	C.4	HUTSON, R. A., et al. 1993. "The development and assessment of DNA and oligonucleotide probes for the specific detection of <i>Bacillus anthracis</i> ." J. Appl. Bacteriol. 75:463-472.	
	C.5	JACKSON, P. J., et al. 1999. "Genetic comparison of <i>Bacillus anthracis</i> and its close relatives using amplified fragment length polymorphism and polymerase chain reaction analysis." J. Appl. Microbiol. 87:263-269.	
	C.6	KIEM, P., et al. 1997. "Molecular evolution and diversity in <i>Bacillus anthracis</i> as detected by amplified fragment length polymorphism markers." J. Bacteriol. 179:818-824.	
	C.7	LONGCHAMP, P., et al. 1999. "Molecular recognition specificity of <i>Bacillus anthracis</i> spore antibodies." J. Appl. Microbiol. 87:246-249.	
	C.8	PATRA, G., et al. 1996. "DNA fingerprinting of <i>Bacillus anthracis</i> strains." Salisbury Medical Bulletin, Special Supplement No. 87:59.	
	C.9	PATRA, G., et al. 1996. "Isolation of a specific chromosomal DNA sequence of <i>Bacillus anthracis</i> and its possible use in diagnosis." EMS Immunol. Med. Microbiol. 15:223-231.	
	C.10	PRIEST, F. G., et al. 1994. "Characterization of <i>Bacillus thuringiensis</i> and related bacteria by ribosomal RNA gene restriction fragment length polymorphisms." Microbiology 140:1015-1022.	
	C.11	PROUDNIKOV, D., et al. 1998. "Immobilization of DNA in polyacrylamide gel for the manufacture of DNA and DNA-oligonucleotide microchips." Anal. Biochem. 259:34-41.	
	C.12	RAMISSE, V., et al. 1996. "Identification and characterization of <i>Bacillus anthracis</i> by multiplex PCR analysis of sequences on plasmids pX01 and pX02 and chromosomal DNA." FEMS Microbiol. Lett. 145:9-16.	
EXAMINER	DATE CONSIDERED		

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FORM PTO/SB/08A
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 4 of 4

U.S. DEPARTMENT OF COMMERCE
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	D.1	RYZHOV, V., et al. 2000. "Rapid characterization of spores of <i>Bacillus cereus</i> group bacteria by matrix-assisted laser desorption-ionization time-of-flight mass spectrometry." Appl Environ. Microbiol. 66:3828-3834.	
	D.2	SHANGKUAN, Y.-H., ET AL. 2000. "Comparison of PCR-RFLP, ribotyping and ERIC-PCR for typing <i>Bacillus anthracis</i> and <i>Bacillus cereus</i> strains. J. Appl. Microbiol. 89:452-462.	
	D.3	STRIZHKOV, B. N., et al. 2000. "PCR amplification on a microarray of gel-immobilized oligonucleotides: detection of bacterial toxin- and drug-resistant genes and their mutations." BioTechniques 29:844-857.	
	D.4	WUNSCHER, D., et al. 1994. "Discrimination among the <i>Bacillus cereus</i> group, in comparison to <i>B. subtilis</i> , by structural carbohydrate profiles and ribosomal RNA spacer region PCR." Syst. Appl. Microbiol. 17:625-635.	
	D.5	YERSHOV, G., et al. 1996. "DNA analysis and diagnostics on oligonucleotide microchips." Proc. Natl. Acad. Sci. USA. 93:4913-4918.	
	D.6	ZLATANOVA, J., et al. 2001. "Gel immobilized microarrays of nucleic acids and proteins." In J. B. Rampal (ed.), Methods in Molecular Biology: DNA Arrays, Methods, and Protocols, in press, Human Press, Inc., Totowa, NJ.	
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